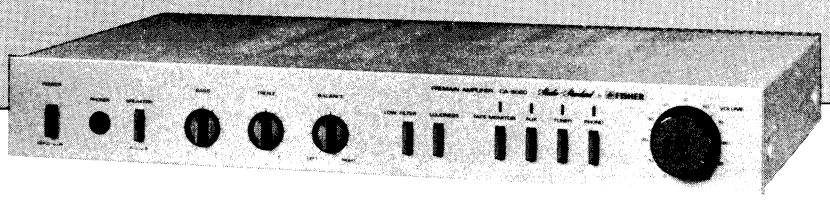
SERVICE MANUAL

FISHER

CA-9090

INTEGRATED STEREO AMPLIFIER



The first name in high fidelity

SPECIFICATIONS

Output Power
Sine wave at 1 k Hz, 1% THD
8 ohm load .....30 W

Frequency Response
Phono(RIAA 30-1500 Hz .....±0.5dB
AUX(−3dB).....20—40000 Hz

Input Sensitivity/Impedance
Tuner, Tape, Aux.....150mV/47 k ohms
Phono.....2.5mV/47 k ohms
Overload Level at Phono .....120 mV
Tape Rec. Output Level .....150 mV
Bass Control Range at 100Hz .....±10dB
Treble Ckontrol Range at 10kHz.....±10dB

Loudness Contour
at 100Hz..... + 8dB
at 10kHz..... + 3dB
Low Filter Response (−6dB/Oct.) 40Hz

Signal-to-Noise Ratio (IHF-A Weighted)
Tuner, Tape, Aux.....90dB
Phono.....70dB
Power Source AC120/220/240V, 50/60Hz
Dimensions (approx.).....(W)440x(H)64.5x(D)250mm

NOTE : Specifications are subject to change without prior notice.

PARTS LIST

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF A UNIT. COMPONENTS INDICATED BY A MARK ⚠ IN THIS PARTS LIST AND THE SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAVE SPECIAL SIGNIFICANCE TO PRODUCT SAFETY.
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Key No.	Ref.No.	PART No.	DESCRIPTION	Q'ty
			PACKAGE PARTS	
		R-4776254	Tag, AC cord	1
		R-357556	Polyethylene bag, AC cord	1
		R-4776210	Instruction book	1
		R-357632	Polyethylene bag, Set	1
		R-4173775	Styro-foam, Left	1
		R-4173776	Styro-foam, Right	1
		R-4076167	Individual carton	1
		R-4773695	Guarantee card	1
		R-357562-1	Polyethylene bag, Instruction book, Garantee card	1
		R-357643	Sheet	2
		R-4775652	Label, Date	3
			CABINET APPEARANCE PARTS	
1		R-A77415	Front panel assembly	1
			Screw, Flat Hd., 3x8, B-tight	4
			Screw, Pan Hd., 3x8, P-tight	4
2		R-A76818	Bottom case assembly	1
(3)		R-1273541-M	Top case	1
			Screw, Washer Hd., 3x6, B-tight	5
4		R-3974171-N	Knob, VOLUME	1
5		R-3974281-QA	Knob, BASS, TREBLE, BALANCE	3
6		R-3974570	Knob, PHONO, TUNER, AUX TAPE MONITOR, LOUDNESS LOW FILTER, SPEAKERS	7
7		R-A77416	Knob assembly, POWER	1
8		R-3974393	Foot base	1
			Screw, Pan Hd., 3x8, B-tight	1
9		R-437506	Sheet, AUX, TUNER, PHONE	3
10		R-377085	Tapping saport, QE P.C.B.	3
			CHASSIS MECHANICAL PARTS	
11		R-1273544	Metal bracket, Heat sink	2
			Screw, Pan Hd., 3x5, S-tight	2
12		R-1273545	Metal bracket, Heat sink	2
			Screw, Pan Hd., 3x5, S-tight	2
13		R-277937	Heat sink, Power IC	2
			Screw, Pan Hd., 3x8, B-tight	4
14		R-1273879	Metal bracket, Volume earth	1
			Screw, Bind Hd., 3x6, B-tight	1
15		R-1273808A	Metal bracket, Power switch	1
			Screw, Bind Hd., 3x6, B-tight	1
17		R-4171489	Cushion, Knob, SPEAKERS, TAPE MONITOR, LOW FILTER, LOUDNESS, AUX, TUNER, PHONO	7
18		R-1273890	Chassis, Rear	1
			Screw, Bind Hd., 3x6, B-tight	5
19		R-3974386-1	Fix plastic board, Voltage select	1
			Screw, Pan Hd., 3x14, B-tight	2
20		R-377070	Bushing, AC cord	1
21		R1570437	Earth terminal, GND	1
			Flat washer, Metal, 3Øx8Øx1t	1
22		R-3974830	Fix plastic board, Power P.C.B.	2
			Screw, Pan Hd., 3x8, B-tight	2
23		R-1273880	Metal bracket, Volume earth	1
24		R-1273899	Metal bracket, Power switch ∿ Power knob	1
25		R-3973955	Fix plastic board, Control P.C.B.	1
			Screw, Pan Hd., 3x5, B-tight	1
26		R-4470597	Cushion, Power transformer	2
			Screw, Pan Hd., 3x6, B-tight Main P.C.B. mtg.	4
			Screw, oval Hd., 3x10, B-tight Control P.C.B. push switch, mtg.	2
			Screw, Washer Hd., 3x6, B-tight, Control P.C.B. mtg.	1
			Screw, Washer Hd., 3x8, B-tight Power P.C.B. mtg.	2

NOTES : 1. Part orders must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and/or resistors must be multiple of 10 pcs.

PARTS LIST

Key No.	Ref.No.	PART No.	DESCRIPTION	Q'ty
			Screw, Pan Hd., 3x8, B-tight LED P.C.B. mtg.	2
			Screw, Flat Hd., 3x6, Power supply P.C.B. Power switch mtg.	1
			Screw, Pan Hd., 3x8, B-tight EQ P.C.B. Terminal plate RCA 4P, 6P mtg.	4
			ELECTRICAL PARTS	
27	⚠	R-W770219	Power transformer	1
			Screw, Pan Hd., 4x10	4
			Nut With washerHex Hd., M4	4
28	⚠	R-S37089-1	AC cord	1
		R-367300	Cover	1
	F2,3, 201,301 ⚠	R-S17286	Fuse, T3.15A	4
29		R-S17360	Terminal plate, Speakers	
	CS2,5	R-S27298-3	Housing, 3P	2
	CS7	R-S27298-5	Housing, 5P	1
	CS1	R-S27298-13	Housing, 13P	1
	CS8	R-S27298-2	Housing, 2P	1
		R-247755	Terminal, Housing	22
	CS3	R-377108-3	Housing, 3P	1
	CS4	R-377108-4	Housing, 4P	1
		R-257265	Terminl, Housing	7
30	S7 ⚠	R-S47222-7	Potary switch, 120/220/240V, Vol SEL	1
		R-S17243	Cord clip	1
		R-S17399	Nylon Band	6
31		R-4173983	Printed circuit board, LED A	1
	9,10,11		LED, SLP-251B, LED A P.C.B.	3
	D8		LED, SLP-451B, LED A P.C.B.	1
32		R-4174004	Printed circuit board, LED B	1
	D5,6		LED, SLP-245B, LED B P.C.B.	2
	IC201,301		Integrated circuit, STK-0352 MAIN P.C.B.	2
			Screw, Washer Hd., 3x16, B-tight	4
			MAIN P.C.B. ASSEMBLY	
(33)		R-A77417	Circuit board assembly, Main With out IC201,301	1
	⚠	R-S17024	Fuse holder	8
	CP2	R-S27207-3	Plug, 3P	1
34		R-2672904	Heat sink	1
			SEMICONDUCTORS	
	Q204,304		Transistor, 2SC1627	2
	Q203,303		Transistor, 2SA798	2
	Q205		Transistor, 2SD600	1
			Screw, Pan Hd., With spring washer, 3x8	1
			Nut, Hex, Hd., M3	1
	D201,301		Diode, DS442x or 1S1588	2
	D202,302		Zener Diode, GZA12L or HZ12A1	2
	D1,2,3,4		Diode, S2V20	4
	D7		Zener Diode GZA22Y	1
			RESOSTPRS	
	(Resistors are of carbon type ±5% allowance and ±1/4W unless oterwise noted.)			
	R213,313		120 k ohm	2
	R214,314		1.2 k ohm	2
	R215,315		12 k ohm	2
	R216,316		1.5 k ohm	2
	R218,318		15 k ohm	2
	R219,319		22 k ohm	2
	R220,320		5.6 k ohm	2

Key No.	Ref.No.	PART No.	DESCRIPTION	Q'ty
	R221,321		680 ohm	2
	R8,9		10 k ohm	2
	R4		6.8 k ohm	1
	R223,323,322,222		3.3 k ohm	4
⚠	R226,326		Metal film fusing, 4.7 ohm, ±5%, 1/4W	2
	R217,317		Metal oxid film, 1 k ohm, ±5%, 1W	2
	R1,2		Metal oxid film, 1.8 k ohm, ±5%, 1W	2
⚠	R3		Metal film fusing, 100 ohm, ±5%, 1/4W	1
⚠	R250,350		Metal film fusing, 220 ohm, ±5%, 1/4W	2
	R224,225,324,325		Metal plate, 0.22 ohm, ±10%, 5W	4
	R227,327		Metal oxid film, 330 ohm, ±5%, 1W	2
			CAPACITORS	
	C211,311		Ceramic, 22pF, ±5%, 50V, SL	2
	C217,218,317,318		Ceramic, 180pF, ±10%, 50V, B	4
	C213,313		Ceramic, 2.2pF, ±10%, 50V, SL	2
	C210,310		Ceramic, 30pF, ±10%, 50V, SL	2
	C209,309		Ceramic, 120pF, ±10%, 50V, SL	2
	C221,321		Mylar, 0.047mfd, ±20%, 50V, AMX	2
	C2,3,4,5		Mylar, 0.01mfd, ±20%, 100V, AMX	4
	C212,313		Electrolytic, 100mfd/6.3V, MVH	2
	C8,9		Electrolytic, 330mfd/35V, MVH	2
	C215,315		Electrolytic, 100mfd/35V, MVH	2
	C216,316		Electrolytic, 220mfd/35V, MVH	2
	C219,220,319,320		Electrolytic, 10mfd/50V, MVH	4
	C234,334		Electrolytic, 100mfd/50V, MVH	2
	C11,12		Electrolytic, 10mfd/35V, MVH	2
	C208,308		Electrolytic, 1mfd/50V, SM	2
\	C6,7		Electrolytic, 3300mfd/50V	2
			CONTROL P.C.B. ASSEMBLY	
35		R-A77418	Circuit board assembly, Control	1
36	VR3,4	R-1167364	Rotary volume, 100KC, BASS, TREBLE	2
37	VR1	R-R1167395	Rotary volume, 250KMN, BALANCE	1
38	VR2	R-R1167424	Rotary volume, 100KA, VOLUME	1
39	S2,3	R-S47867	Push switch, PHONO, TUNER, AUX, TAPE MONITOR, LOUDNESS, LOW FILTER	1
	CP5	R-S27207-3	Plug, 3P	1
	CP1	R-S27207-13	Plug, 13P	1
	CS6	R-S27440-9	Socket, 9P	1
	CP7	R-S27207-5	Plug, 5P	1
	CP8	R-S27207-2	Plug, 2P	1
			RESISTORS	
	(Resistors are of carbon type, ±5% allowance and 1/4W unless otherwise noted.)			
	R228,328		2.7 k ohm	2
	R229,329		1.2 k ohm	2
	R230,232,330,332		18 k ohm	4
	R231,331		5.6 k ohm	2
	R233,333		6.8 k ohm	2
	R234,334		120 k ohm	2
	R244,344		8.2 k ohm	2
	R245,345		560 k ohm	2
	R246,346		390 k ohm	2
	R243,247,343,347		1 k ohm	4
	R11,12,13,14		1.8 k ohm	4
	R5		1 k ohm, ±10%, 1/2W, Solid	1
			CAPACITORS	
	C232,332		Ceramic, 220pF, ±10%, 50V, B	2
	C224,324		Mylar, 0.012mfd, ±10%, 50V, AMX	2
	C225,325		Mylar, 0.068mfd, ±10%, 50V, AMX	2
	C222,322		Mylar, 0.018mfd, ±10%, 50V, AMX	2
	C223,323		Mylar, 0.0022mfd, ±10%, 50V, AMX	2
	C231,331		Mylar, 0.033mfd, ±10%, 50V, AMX	2
	C214,314		Electrolytic, 10mfd/16V, MVH	2
	C233,333		Mylar, 0.039mfd, ±10%, 50V, AMX	2

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PARTS LIST

Key No.	Ref.No.	PART No.	DESCRIPTION	Q'ty
			EQ P.C.B. ASSEMBLY	
40		R-A76821	Circuit board assembly, EQ	1
41	JK2	R-S17514	Terminal plate, RCA 4P	1
42	JK1	R-S17523-1	Terminal plate, RCA 6P	1
			SEMICONDUCTORS	
	Q201,301		Transistor, 2SA970	2
	Q202,302		Transistor, 2SC732	2
			RESISTORS	
	(Resistor are of carbon type ±5% allowance and 1/4W unless otherwise noted)			
	R201,301		220 k ohm	2
	R202,302		1 k ohm	2
	R203,303		68 k ohm	2
	R204,304		120 k ohm	2
	R205,305		220 k ohm	2
	R206,306		330 ohm	2
	R207,307		270 k ohm	2
	R208,308		18 k ohm	2
	R209,309		4.7 k ohm	2
	R210,310		12 k ohm	2
	R211,311		100 k ohm	2
	R212,312		560 ohm	2
	R6,7		470 ohm	2
			CAPACITORS	
	C202,302		Ceramic, 220pF, ±10%, 50V, B	2
	C203,303		Mylar, 0.015mfd, ±5%, 50V, AMX	2
	C204,304		Polypropylene, 4300pF, 5%, 100V	2
	C207,307		Electrolytic, 1mfd/50V, MVH	2
	C205,206,305,306		Electorlytic, 47mfd/16V, MVH	4
	C13,14		Electrolytic, 100mfd/35V, MVH	2
	C201,301		Electrolytic, 0.47mfd/50V, MS	2
			POWER SUPPLY P.C.B ASSEMBLY	
43		R-A77419	Circuit board assembly, Power supply	1
44	S6	R-S47706	Push switch, SPEAKERS	1
45	S1	R-S47868	Push switch, POWER	1
46	JK3	R-S27438-1	Jack, PHones	1
	CP3	R-S27531-3	Plug, 3P	1
	CP4	R-S27531-4	Plug, 4P	1
		R-237188	Eylet lug	4
			CAPACITORS	
⚠	C1	R-C97006	Metalized polyester, 0.01mfd, ±20%, 250V	1
		R-367266	Cover, C1	1

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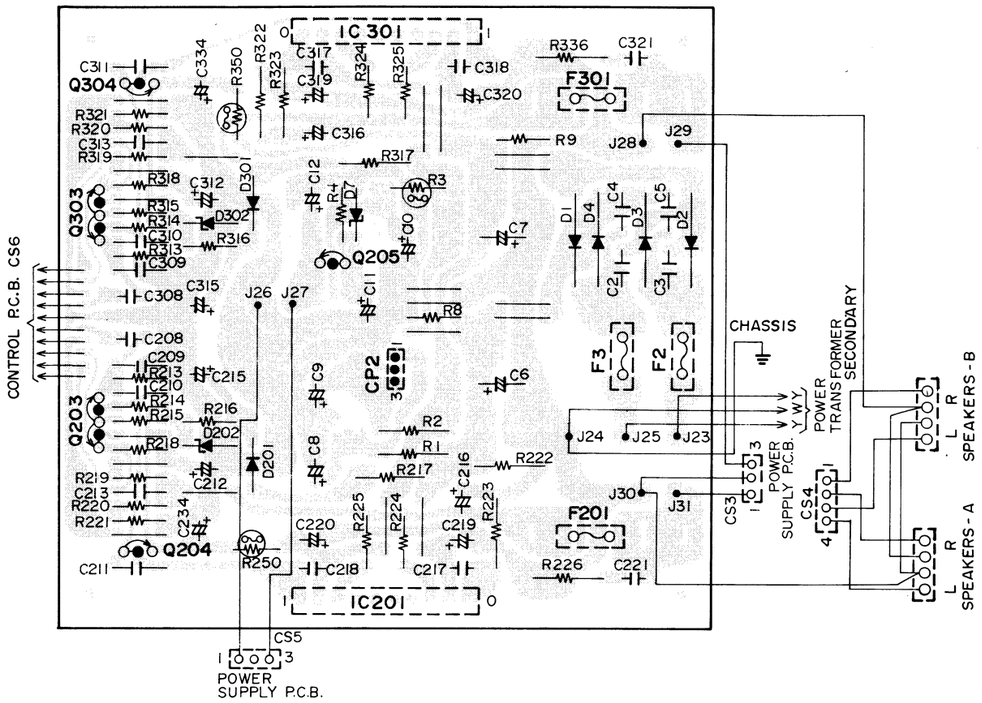
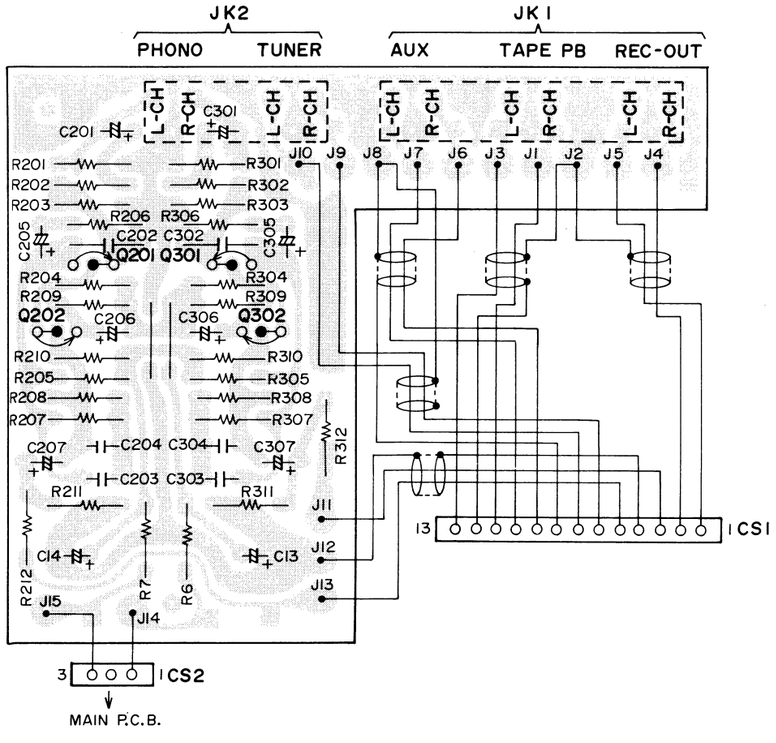
WIRING DIAGAM

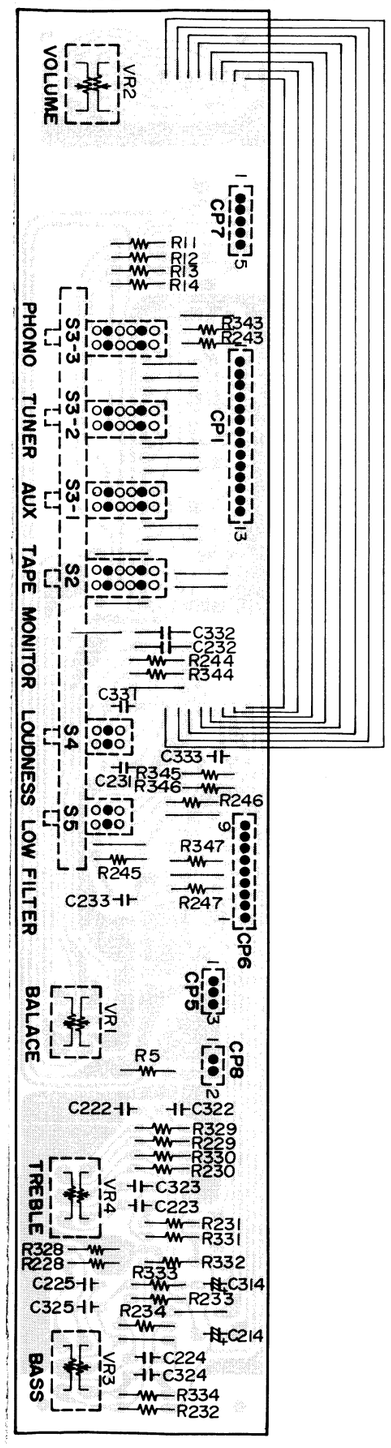
MAIN P.C.B. Bottom



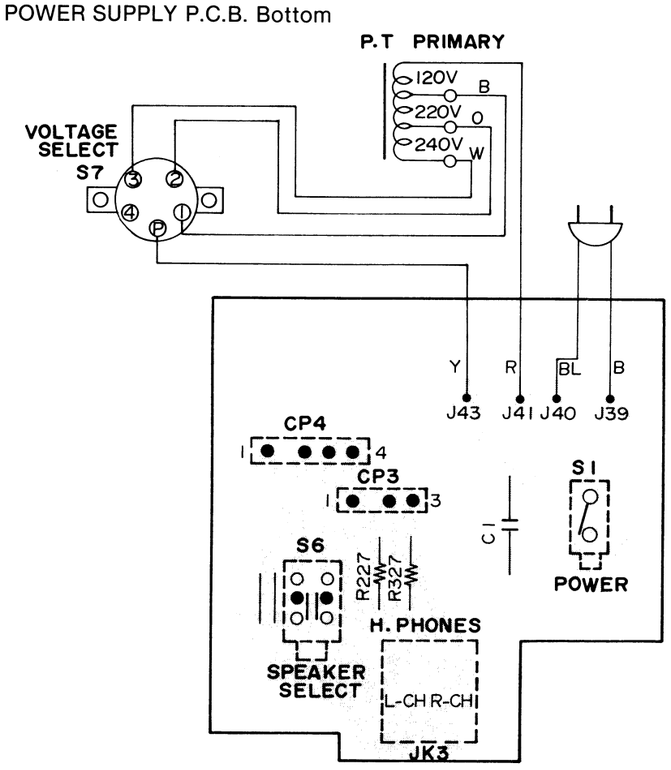
EQ P.C.B. Bottom



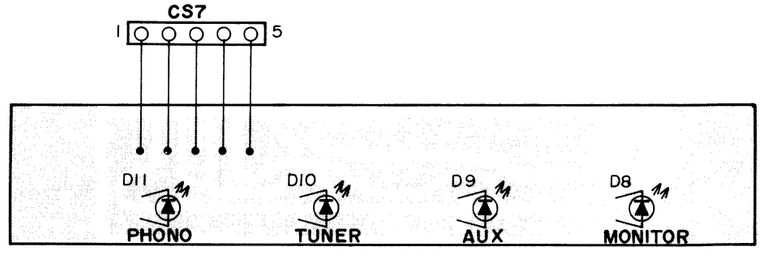
CONTROL P.C.B. Bottom



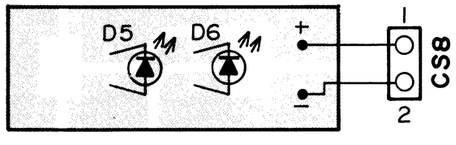
POWER SUPPLY P.C.B. Bottom



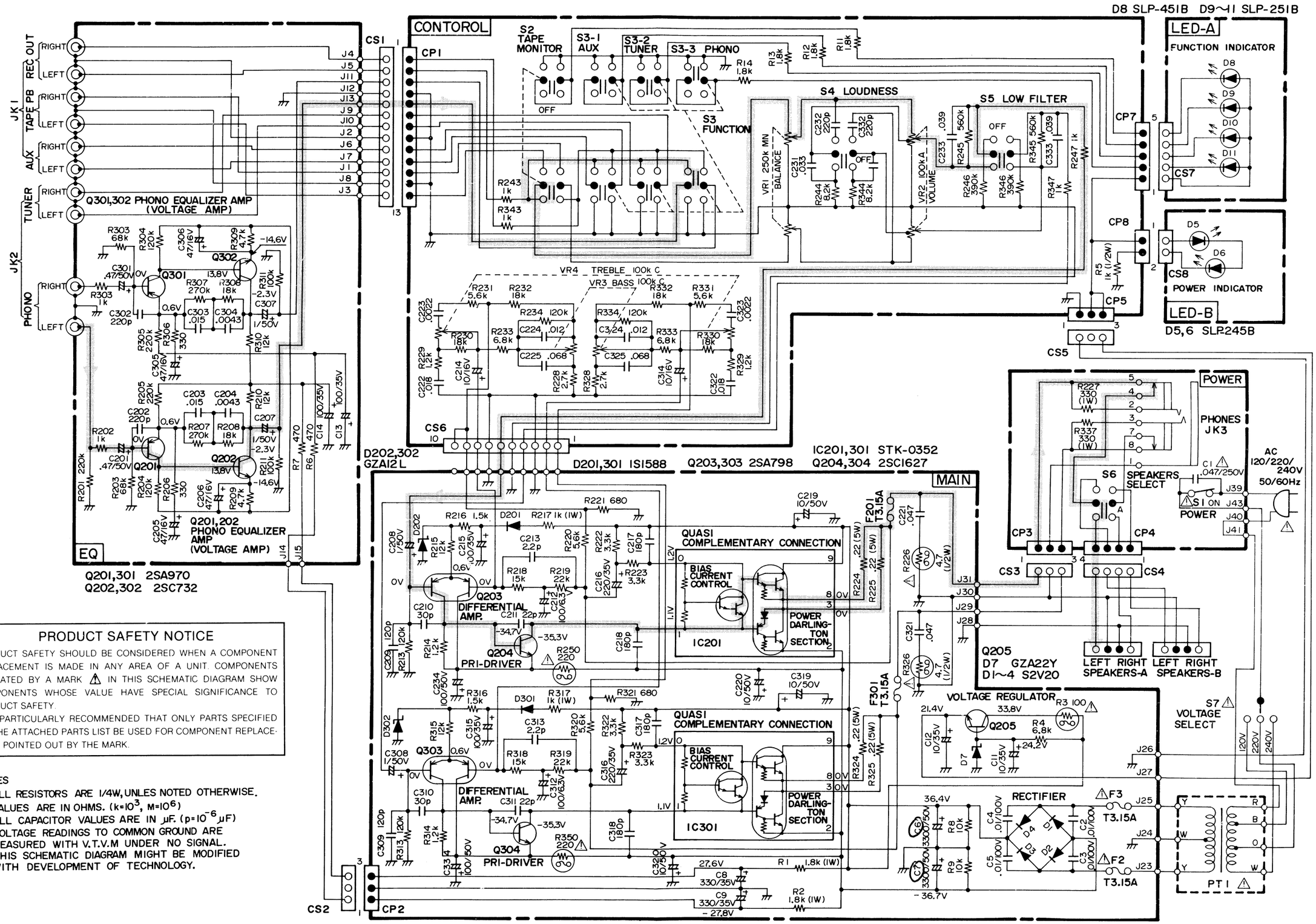
LED A P.C.B. Bottom



LED B P.C.B. Bottom



SCHEMATIC DIAGRAM



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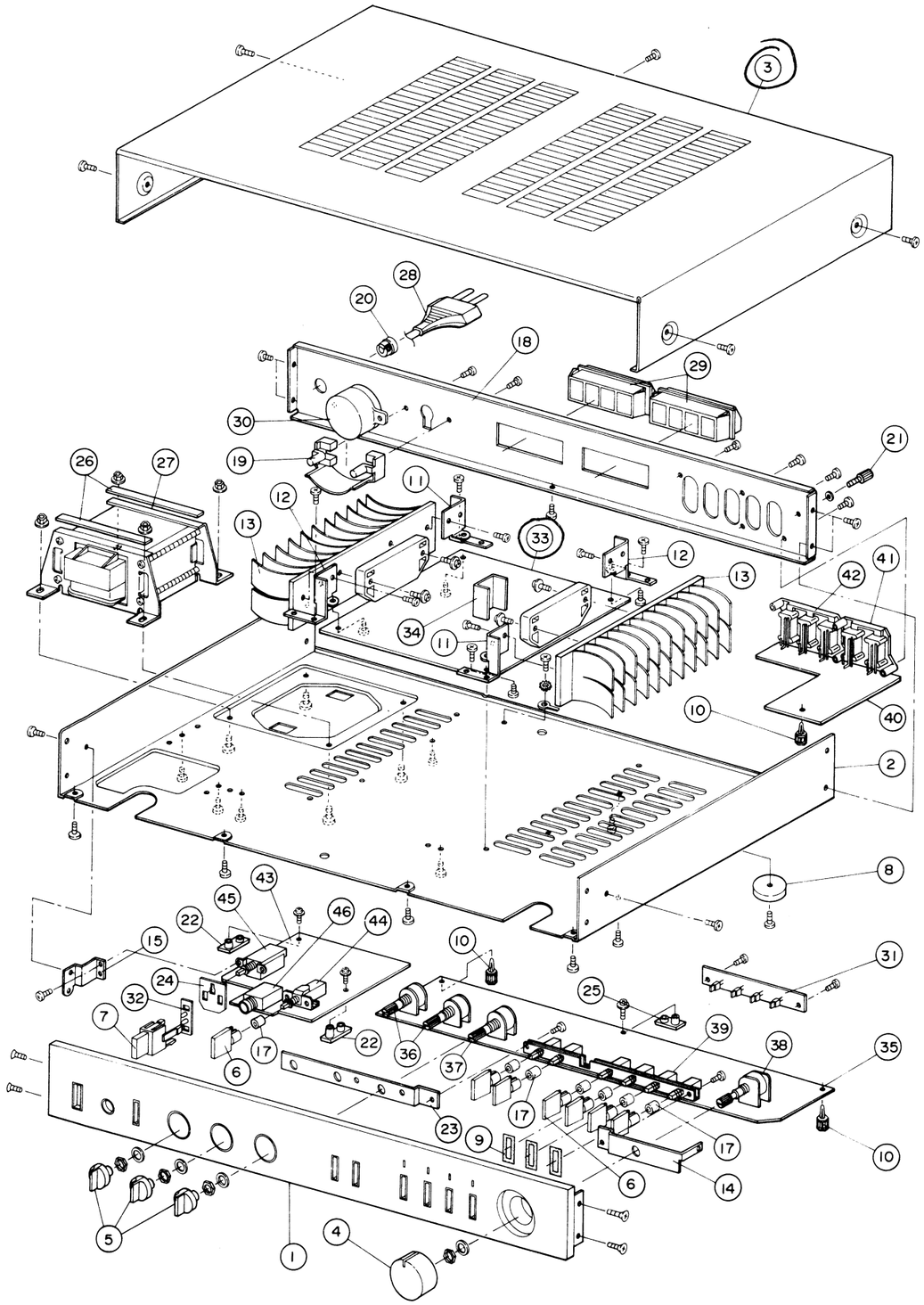
NOTES

1. ALL RESISTORS ARE 1/4W, UNLES NOTED OTHERWISE. VALUES ARE IN OHMS. ($k=10^3$, $M=10^6$)
2. ALL CAPACITOR VALUES ARE IN μF. ($p=10^{-6}$ μF)
3. VOLTAGE READINGS TO COMMON GROUND ARE MEASURED WITH V.T.V.M UNDER NO SIGNAL.
4. THIS SCHEMATIC DIAGRAM MIGHT BE MODIFIED WITH DEVELOPMENT OF TECHNOLOGY.

EXPLODED VIEW



Bezeichnung/Description
SERVICE MANUAL
Teile-Nr./Parts No.
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1
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FISHER HiFi Service GmbH

FISHER

Service, Ersatzteillager :
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